

**NATIONAL TRANSPORTATION SAFETY BOARD**  
**Office of Research and Engineering**  
**Vehicle Recorder Division**  
**Washington, D.C. 20594**



**GROUP CHAIRMAN'S FACTUAL REPORT OF INVESTIGATION**

**DCA11IA047**

By  
**Bill Tuccio**

**WARNING**

The reader of this report is cautioned that the transcription of a cockpit voice recorder audio recording is not a precise science but is the best product possible from a Safety Board group investigative effort. The transcript or parts thereof, if taken out of context, could be misleading. The transcript should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the transcript as the sole source of information.

**NATIONAL TRANSPORTATION SAFETY BOARD**  
Vehicle Recorder Division  
Washington, D.C. 20594

October 6, 2011

## **Cockpit Voice Recorder - 12**

### **Group Chairman's Factual Report By Bill Tuccio**

#### **A. EVENT**

Location: Chicago, Illinois  
Date: April 26, 2011, 1333 Central Daylight Time (CDT)  
Aircraft: Boeing 737-700, N799SW  
Operator: Southwest Airlines, Flight 1919  
NTSB Number: DCA11IA047

#### **B. GROUP**

A group was convened on May 3, 2011.

Chairman: Bill Tuccio  
National Transportation Safety Board

Member: Floyd A. (Tony) James  
Air Safety Investigator  
Federal Aviation Administration

Member: Captain Michael Earl  
FDAP/FOQA Gatekeeper  
Southwest Airlines Pilots Association

Member: Captain Jeff Hamlett  
Director Flight Safety  
Southwest Airlines Co.

Member: Captain Sam Goodwill  
Safety Pilot  
Boeing

## **C. SUMMARY**

On April 26, 2011 at 13133 central daylight time (CDT), a Boeing 737-700, U.S. registration N799SW, operated by Southwest Airlines as flight 1919, departed the left side of runway 13C after landing at Chicago Midway International Airport, Chicago, Illinois (MDW). Weather was reported as rain, with southerly winds of approximately 20 knots. There was minor damage to the airplane due to the right hand engine ingesting a taxiway light during the excursion. There were no injuries to the 2 flight crew, 3 cabin crew, and 139 passengers which included 5 lap-held children. Witness marks on the runway indicated the airplane touched down about 450 feet from the displaced arrival threshold. Runway conditions were reported as "wet and fair [braking]" by a preceding arrival. A solid-state cockpit voice recorder (CVR) was sent to the National Transportation Safety Board's Audio Laboratory for readout. The CVR group meeting convened on May 3, 2011 and a partial transcript was prepared for the last 1 hour, 12 minutes, 43 seconds of the 2 hour, 5 minute, and 5 second digital recording (see attached).

## **D. DETAILS OF INVESTIGATION**

On April 28, 2011, the NTSB Vehicle Recorder Division's Audio Laboratory received the following CVR:

Recorder Manufacturer/Model: **Allied Signal 980-6022-001**  
Recorder Serial Number: **0777**

### **Recorder Description**

Per Federal regulation, CVRs record a minimum of the last 30 minutes of aircraft operation; this is accomplished by recording over the oldest audio data. When the CVR is deactivated or removed from the airplane, it retains only the most recent 30 minutes or 2 hours of CVR operation, depending on the CVR model. This model CVR, the Allied Signal 980-6022-001, is a solid-state CVR that records 2 hours of digital cockpit audio. The recorded audio data is separated by Honeywell download software into 2 sets of audio data files: a) a 2-channel recording containing the last 2 hours of recorded events and b) a 4-channel recording containing the last 30 minutes of recorded events. During the 2-hour portion of the recording, one channel contains audio information from the cockpit area microphone (CAM) and the other channel contains a mixture of two audio sources: the captain's audio panel information and the first officer's audio panel information. The 30-minute portion of the recording contains 4 channels of audio data; one channel for each flight crew and one channel for the CAM audio information.

### **Recorder Damage**

Upon arrival at the audio laboratory, it was evident that the CVR had not sustained any heat or structural damage and the audio information was extracted from the recorder normally, without difficulty.

### **Audio Recording Description**

As shown in the tables below, the 2-hour recording consisted of two channels of useable audio information. The 30-minute portion of the recording consisted of four

channels of useable audio information. Each channel's audio quality\* is indicated in Table 1 and 2.

**Table 1: Audio Quality of 2-Hour Portion**

<b>Channel Number</b>	<b>Content/Source</b>	<b>Quality</b>
1	CAM	Good
2	Mixed	Excellent

**Table 2: Audio Quality of 30-Minute Portion**

<b>Channel Number</b>	<b>Content/Source</b>	<b>Quality</b>
1	Captain	Excellent
2	First Officer	Excellent
3	Observer	Excellent
4	CAM	Good

### **Timing and Correlation**

Timing on the transcript was established by correlating the CVR events to common events on the flight data recorder (FDR). Specifically, 16 radio transmissions that the aircraft made on the 30-minute recording between 0002:12 and 0017:01 CVR elapsed time were correlated to the radio transmit microphone key parameter from the FDR between 1316:16 and 1331:03 CDT. Each of the 16 radio transmissions acted as an anchor point for a linear interpolation between the remaining CVR events. As a result of the correlation, 1139:17.263 was added to the 2-hour recording elapsed time, and 1314:03.034 was added to the 30-minute recording elapsed time, to convert each to CDT.

### **Description of Audio Events**

The recording began at 1139:17 during the enroute portion of the flight as the first officer contacted Minneapolis Center at flight level 370. The crew discussed a sundry of items related to crew scheduling, training, food, and lodging.

At 1212:01, the flight was handed off to Chicago Center and shortly thereafter descended to flight level 330. At 1216:16, the crew first noted the landing at Midway would be on runway 13C and how the runway was used infrequently.

While the aircraft descended to flight level 240, the first officer noted the landing on runway 13C would require the use of auto brakes and maximum braking. At 1219:31, the captain briefed the arrival into the Midway area, as well as briefing the runway 13C ILS approach.

After the approach briefing, the crew discussed additional topics related to seniority and scheduling. At 1229:56, Chicago center first informed the crew to expect holding delays at the MODIS intersection. In response to the holding delays, the crew discussed their fuel on board and an alternate of St. Louis.

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\* See attached CVR Quality Rating Scale.

The attached transcript began at 1231:38 and continued through the landing, runway excursion, and ensuing events. Notably, the transcript does not include air traffic control communications (ATC) not directed at or related to the accident aircraft. However, there were numerous ATC communications occurring throughout the recording contributing to frequency congestion. The recording ended at 1344:23 after the crew pulled the CVR circuit breaker as part of the emergency checklist.

As part of the Safety Board's accident investigation process, the flight crew was invited to review the CVR transcript and suggest corrections or additions. The first officer declined the invitation, the captain reviewed the transcript on June 21, 2011.

The captain noted the entry at 1319:57.9, "don't know what he means," was made by HOT-2 rather than HOT-1.

Bill Tuccio  
Aerospace Engineer  
Vehicle Recorder Division

## CVR Quality Rating Scale

The levels of recording quality are characterized by the following traits of the cockpit voice recorder information:

- Excellent Quality** Virtually all of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate only one or two words that were not intelligible. Any loss in the transcript is usually attributed to simultaneous cockpit/radio transmissions that obscure each other.
- Good Quality** Most of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate several words or phrases that were not intelligible. Any loss in the transcript can be attributed to minor technical deficiencies or momentary dropouts in the recording system or to a large number of simultaneous cockpit/radio transmissions that obscure each other.
- Fair Quality** The majority of the crew conversations were intelligible. The transcript that was developed may indicate passages where conversations were unintelligible or fragmented. This type of recording is usually caused by cockpit noise that obscures portions of the voice signals or by a minor electrical or mechanical failure of the CVR system that distorts or obscures the audio information.
- Poor Quality** Extraordinary means had to be used to make some of the crew conversations intelligible. The transcript that was developed may indicate fragmented phrases and conversations and may indicate extensive passages where conversations were missing or unintelligible. This type of recording is usually caused by a combination of a high cockpit noise level with a low voice signal (poor signal-to-noise ratio) or by a mechanical or electrical failure of the CVR system that severely distorts or obscures the audio information.
- Unusable** Crew conversations may be discerned, but neither ordinary nor extraordinary means made it possible to develop a meaningful transcript of the conversations. This type of recording is usually caused by an almost total mechanical or electrical failure of the CVR system.

**Transcript of an Allied Signal 980-6022-001 solid-state cockpit voice recorder, serial number 0777, installed on a Southwest Airlines Boeing 737-700 (N799SW), which departed the runway at the Chicago Midway International Airport in Chicago, Illinois.**

## **LEGEND**

<b>CAM</b>	Cockpit area microphone voice or sound source
<b>HOT</b>	Flight crew audio panel voice or sound source
<b>RDO</b>	Radio transmissions from N799SW
<b>CTR-A</b>	Radio transmission from first Chicago center controller
<b>CTR-B</b>	Radio transmission from second Chicago center controller
<b>CTR-C</b>	Radio transmission from third Chicago center controller
<b>APR</b>	Radio transmission from the Chicago approach controller
<b>TWR</b>	Radio transmission from the Midway airport tower controller
<b>OPS</b>	Radio transmission from Southwest Midway operations
<b>AC-A</b>	Radio transmission from other aircraft identified as Southwest 272
<b>AC-B</b>	Radio transmission from other aircraft identified as Southwest 376
<b>PA</b>	Public address system
<b>FA</b>	Flight attendant
<b>-1</b>	Voice identified as the captain
<b>-2</b>	Voice identified as the first officer
<b>-3...-8</b>	Voice identified as a flight attendant
<b>-?</b>	Voice unidentified
<b>*</b>	Unintelligible word
<b>#</b>	Expletive
<b>@</b>	Non-pertinent word
<b>( )</b>	Questionable insertion
<b>[ ]</b>	Editorial insertion

Note 1: Times are expressed in central daylight time (CDT).

Note 2: Generally, only radio transmissions to and from the accident aircraft were transcribed.

Note 3: Words shown with excess vowels, letters, or drawn out syllables are a phonetic representation of the words as spoken.

Note 4: A non-pertinent word, where noted, refers to a word not directly related to the operation, control or condition of the aircraft.

**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

11:39:17.3  
**START OF RECORDING**

12:31:40.0  
**START OF TRANSCRIPT**

12:31:51.1  
**HOT-1** ask him how long.

12:31:57.5  
**HOT-1** Bradford at fifteen.

12:31:58.8  
**HOT-2** yeh.

12:32:03.6  
**HOT-2** he doesn't know.

12:32:07.6  
**HOT-2** great expectations.

12:32:23.2  
**HOT-1** as published.

12:32:26.6  
**HOT-2** ah.

12:32:27.8  
**HOT-1** at MOTIF maybe.

12:32:29.4  
**HOT-2** yeh. that is what he said MOTIF.

12:31:40.0  
**CTR-A** Southwest nineteen nineteen cross Bradford at and maintain one five thousand. the Moline altimeter two niner tree fife.

12:31:47.3  
**RDO-2** cross Bradford at one five thousand ah Southwest nineteen nineteen...and how long do you expect in holding?



**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

12:32:37.1  
**HOT-2** yeh MOTIF does have a published.

12:33:04.5  
**HOT-2** okay.

12:33:04.9  
**HOT-2** okay.

12:33:06.9  
**HOT-1** that's information we can use.

12:33:09.1  
**HOT-2** yeh.

12:33:10.7  
**HOT-2** so we won't be holdin' long.

12:33:15.9  
**HOT-1** what's up with that.

12:33:20.8  
**HOT-2** nor do we wan't to hold long because we are shaving time for the company.

12:33:24.2  
**HOT-1** [laughter]

12:33:38.8  
**HOT-1** R-nav G-P-S. R-nav R-N-P.

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

12:32:43.2  
**CTR-A** I'm not sure how long the holding is for Midway. it's ah we have been in and out of the hold. it has deal with the ah runway three one center there using R-nav er R-N-P approach. so if people can't do the R-N-P approach to thirteen center then ah they said we are going to be in and out of the hold all day because some people can't take that approach.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:33:46.3 HOT-1	the R-N-P to three one...is he--		
12:33:49.6 HOT-2	one three he said three one but he meant one three because they always say it wrong.		
12:33:54.0 HOT-1	yeh.		
12:33:59.5 HOT-2	got G-P-S.		
12:34:03.8 HOT-2	it's twelve four.		
12:34:06.1 HOT-1	yep.		
12:34:10.4 HOT-2	oh the boys in the training center are gonna be like falling over themselves on this.		
12:34:17.9 HOT-2	right.		
12:34:18.0 HOT-1	[laughter] absolutely.		
12:34:23.1 HOT-2	see two hundred million dollars is paying off.		
12:34:26.1 HOT-1	it's paying off. ten forty.		
12:34:31.1 HOT-1	four twenty nine. okay. alright.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:34:47.6 <b>HOT-1</b>	R-nav G-P-S zulu. yankee zulu. yah.
12:34:55.0 <b>HOT-2</b>	si.
12:34:56.1 <b>HOT-1</b>	si.
12:34:57.1 <b>HOT-1</b>	okay.
12:34:59.7 <b>HOT-2</b>	do you want the transition off DUPAGE or no?
12:35:03.4 <b>HOT-1</b>	ah ***.
12:35:05.9 <b>HOT-2</b>	doesn't need it.
12:35:07.0 <b>HOT-1</b>	yeh.
12:35:11.0 <b>HOT-1</b>	HEBKU.
12:35:18.6 <b>HOT-1</b>	okay. one thirty five is the inbound course. two thousand across HITOB...the L-nav...okay we got a decision altitude down here right?
12:35:28.9 <b>HOT-2</b>	yes.
12:35:28.9 <b>HOT-1</b>	ten forty.
12:35:29.9 <b>HOT-2</b>	i agree.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:35:30.6 <b>HOT-1</b>	okay.		
12:35:31.8 <b>HOT-1</b>	and touch down zone elevation of six eleven.		
12:35:36.2 <b>HOT-1</b>	HITOB at two thousand. a three degree glide path. that checks in the box.		
12:35:41.6 <b>HOT-1</b>	and...funky kind of lighting there we'll make sure we have tens on our...scales. make sure we got to zero after we are established and cleared. and anything else sir?		
12:35:57.4 <b>HOT-2</b>	do we have to select or verify that it's gone to point three?		
12:36:02.8 <b>HOT-1</b>	yes...welp.		
12:36:04.9 <b>HOT-2</b>	or do we select it?		
12:36:05.4 <b>HOT-1</b>	in the R-N-P we do. we sel-- we highlight it.		
12:36:09.4 <b>HOT-1</b>	so we should go to--		
12:36:11.6 <b>HOT-2</b>	gotta go to legs page to do that.		
12:36:12.8 <b>HOT-1</b>	yep.		
12:36:14.2 <b>HOT-2</b>	but we have to wait until we are in an approach segment right.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:36:16.5 <b>HOT-1</b>	yeh.
12:36:20.2 <b>HOT-1</b>	is that what that says here...
12:36:22.8 <b>HOT-2</b>	G-P-S or R-N-P point three required.
12:36:28.0 <b>HOT-1</b>	so we would do something like this.
12:36:30.2 <b>HOT-1</b>	and line select it there yes?
12:36:32.2 <b>HOT-2</b>	yeh.
12:36:35.2 <b>HOT-2</b>	now there's automatic scaling to a point.
12:36:37.9 <b>HOT-1</b>	ah huh.
12:36:38.6 <b>HOT-2</b>	but I don't remember that see I just.
12:36:40.9 <b>HOT-1</b>	you know it.
12:36:43.6 <b>HOT-1</b>	there's another cheat sheet. do you have one on your side?
12:36:44.5 <b>HOT-2</b>	yeh...yeh.
12:36:48.1 <b>HOT-1</b>	or am I using the wrong one?

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:36:52.4 <b>HOT-1</b>	nope. nope. nope. nope.
12:36:56.6 <b>HOT-2</b>	nah.
12:37:36.1 <b>HOT-1</b>	now there's weather.
12:37:52.5 <b>HOT-1</b>	alright twenty nine forty one.
12:37:58.9 <b>HOT-1</b>	ah descent checklist.
12:38:01.1 <b>HOT-2</b>	alright altimeters and bugs.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:36:59.1 <b>CTR-A</b>	Southwest nineteen nineteen contact Chicago center one three five point one five.
12:37:04.3 <b>RDO-2</b>	three five one five Southwest nineteen nineteen.
12:37:12.9 <b>RDO-2</b>	center Southwest nineteen nineteen out of ah nineteen four for ah fifteen thousand. lima.
12:37:17.7 <b>CTR-B</b>	Southwest nineteen nineteen Chicago center O'Hare altimeter two niner tree niner expect to hold ah somewhere eastbound. I think the weather is still there at MOTIF. we are going to find a different place for you. but the O'Hare altimeter is two niner tree niner. speed your discretion.
12:37:28.8 <b>RDO-2</b>	speed our discretion we'll expect to hold Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:38:02.7 <b>HOT-1</b>	set and cross checked.
12:38:05.4 <b>HOT-2</b>	v-ref and target.
12:38:06.7 <b>HOT-1</b>	how about we'll go with ah one twenty nine one forty five. set and noted.
12:38:11.3 <b>HOT-2</b>	auto brake.
12:38:12.6 <b>HOT-1</b>	max set.
12:38:13.9 <b>HOT-2</b>	ah packs.
12:38:15.4 <b>HOT-1</b>	auto.
12:38:16.0 <b>HOT-2</b>	start switches.
12:38:16.7 <b>HOT-1</b>	left continuous.
12:38:17.7 <b>HOT-2</b>	recall.
12:38:18.5 <b>HOT-1</b>	clear.
12:38:19.1 <b>HOT-2</b>	descent check complete. I'll sit em' down and tell em' we got a slight delay... **.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:38:21.4 <b>HOT-1</b>	yep.		
		12:38:23.1 <b>CTR-B</b>	Southwest nineteen nineteen ah gonna hold you at the SMARS intersection. that's sierra mike alpha romeo sierra. and let me know when you find that.
12:38:23.4 <b>PA-2</b>	*** Chicago Midway airport...A-T-C has given us ah a slight delay in holding here...***...have not given us an exact time yet. anyway we got cloudy skies gusty winds temperature sixty one degrees. on behalf of your flight crew we would like to thank you for flying with us * .		
12:38:26.7 <b>HOT</b>	[sound of single chime, similar to seat belt sign]		
		12:38:35.3 <b>RDO-1</b>	Southwest nineteen nineteen...sierra mike alpha say again.
		12:38:41.1 <b>CTR-B</b>	sierra mike alpha romeo sierra it's actually on the zero nine three radial off of Bradford the victor one forty four if you want to track it that way.
		12:38:48.2 <b>RDO-1</b>	Southwest nineteen nineteen call you right back.
		12:38:59.4 <b>RDO-1</b>	and Southwest nineteen nineteen I have the SMARS intersection.
		12:39:04.2 <b>CTR-B</b>	Southwest nineteen nineteen roger you are cleared direct SMARS descend and maintain one one thousand.
		12:39:08.5 <b>RDO-1</b>	direct SMARS descend and maintain one one thousand Southwest nineteen nineteen. and we are R-N-P capable if that's going to be a factor today.



**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

12:39:19.1  
**HOT-2** SMARS at eleven huh?

12:39:20.6  
**HOT-1** yyyyyyeppp.

12:39:32.5  
**HOT-2** did they give us holding?

12:39:33.9  
**HOT-1** not yet.

12:39:35.5  
**HOT-2** is that where the holdings gonna be?

12:39:36.6  
**HOT-1** I think so yeah.

12:39:37.9  
**HOT-2** okay.

12:39:41.1  
**HOT-1** why doesn't it give us slant.

12:39:45.0  
**HOT-2** next hold.

12:39:45.7  
**HOT-1** next hold there we go. SMARS.

12:39:49.8  
**HOT-1** du-lupe.

12:39:50.8  
**HOT-2** voila.

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

12:39:16.2  
**CTR-B** I believe it will be and thanks for telling me.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:39:51.8 <b>HOT-1</b>	voila.
12:40:01.1 <b>HOT-1</b>	and we're down to eleven.
12:40:09.5 <b>HOT-2</b>	thanks.
12:40:14.3 <b>HOT-2</b>	and speeds are whatever.
12:40:16.4 <b>HOT-1</b>	yeah.
12:40:30.1 <b>HOT-2</b>	Southwest nineteen nineteen with you fifteen thousand lima.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:40:02.4 <b>CTR-B</b>	Southwest nineteen nineteen contact Chicago center one two three point seven five they'll have holding instructions for you.
12:40:06.9 <b>RDO-2</b>	two three seven five Southwest nineteen nineteen.
12:40:33.3 <b>CTR-C</b>	Southwest nineteen nineteen Chicago center cleared to the SMARS intersection to hold west right turns ten D-M-E legs are approved. maintain one zero thousand. and expect further clearance one eight one five.
12:40:46.9 <b>RDO-2</b>	okay ah to SMARS. ah maintain ten thousand. hold west as published. right turn up to ten miles on the legs. Southwest nineteen nineteen.
12:40:57.6 <b>CTR-C</b>	E-F-C one eight one five. and the O'Hare altimeter two nine three nine.

**TIME and  
SOURCE**

**INTRA-AIRCRAFT CONTENT**

12:41:03.5  
**HOT-1** as published to what?

12:41:06.4  
**HOT-2** I'm sorry.

12:41:07.2  
**HOT-1** we just went direct SMARS.

12:41:09.2  
**HOT-2** right he said.

12:41:11.2  
**HOT-2** down to ten thousand. it was he said hold west...right turns.

12:41:14.4  
**HOT-1** hold west...right turns.

12:41:15.9  
**HOT-2** so that's why I said as published.

12:41:17.2  
**HOT-1** as we are right now.

12:41:18.6  
**HOT-2** yeah.

12:41:19.7  
**HOT-2** and up to ten mile legs. ten mile legs approved he said.

12:41:25.0  
**HOT-2** E-F-C is eighteen fifteen so.

12:41:28.4  
**HOT-1** yeh let's figure out where we are.

**TIME and  
SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

12:41:01.4  
**RDO-2** one eight one five thank you.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:41:29.8 <b>HOT-2</b>	yeh that's not good.
12:41:30.6 <b>HOT-1</b>	no.
12:41:32.3 <b>HOT-2</b>	I told them...we'd be there in twenty five minutes.
12:41:34.5 <b>HOT-1</b>	yeh.
12:41:35.1 <b>HOT-2</b>	I'm lyin'. I knew he'd make a liar out of me.
12:41:40.1 <b>HOT-1</b>	and down to ten thousand yeh?
12:41:41.5 <b>HOT-2</b>	agree.
12:41:42.1 <b>HOT-1</b>	okay.
12:41:43.3 <b>HOT-2</b>	and any speed you want.
12:41:44.7 <b>HOT-1</b>	yeh I'm gonna get.
12:41:45.5 <b>HOT-1</b>	bring it back.
12:41:46.0 <b>HOT-2</b>	actually its two thirteen it'll do itself at this point.
12:41:47.4 <b>HOT-1</b>	yeh.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:41:50.1 <b>HOT-2</b>	three minutes out.
12:41:55.0 <b>HOT-1</b>	ahhh. okay.
12:42:01.5 <b>HOT-2</b>	go down.
12:42:26.0 <b>HOT-1</b>	I wonder why it didn't take my ah ten mile legs.
12:42:30.7 <b>HOT-2</b>	ah try it again.
12:42:33.0 <b>HOT-2</b>	oh you put it in. oh distance. a legs. oh that's minutes yeh.
12:42:37.0 <b>HOT-2</b>	you know what maybe what ** in the hold.
12:42:39.4 <b>HOT-1</b>	** yep there it goes.
12:42:47.7 <b>HOT-1</b>	let's figure out a distance to ah Saint Louis.
12:42:52.1 <b>HOT-2</b>	Saint Louis.
12:42:60.0 <b>HOT-2</b>	it says a hundred and fifty three miles.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:42:02.9 <b>CTR-C</b>	Southwest nineteen nineteen if you would a good rate down to one zero thousand please.
12:42:06.4 <b>RDO-2</b>	good rate to ten Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:43:02.3 HOT-1	okay. that's not too bad.		
12:43:03.8 HOT-2	yeh.		
12:43:12.4 HOT-2	and it's the same distance to Indy.		
12:43:14.3 HOT-1	okay.		
12:43:37.9 HOT-1	okay I really gotta go potty too.		
12:43:40.0 HOT-2	yeah.		
12:43:40.9 HOT-2	but do you wanna go now?		
12:43:42.0 HOT-1	no.		
12:43:42.7 HOT-2	okay.		
12:43:45.1 HOT-2	you want some water?		
12:43:45.9 HOT-1	[laughter] no.		
12:44:11.5 HOT-2	eleven for ten.		
12:44:12.9 HOT-1	eleven ten.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:44:18.5 <b>HOT-2</b>	I'll talk to the people.		
12:44:18.9 <b>CAM</b>	[sound of tone, similar to altitude alert]		
12:44:19.8 <b>HOT-1</b>	yeh alright.		
12:44:20.3 <b>HOT-2</b>	I'll just tell them I was wrong.		
12:44:26.2 <b>PA-2</b>	and folks from the flight deck ah once again ah they give us an estimate on the time *** thirty minutes *** ah it's possible ***.		
12:45:06.7 <b>HOT-1</b>	alllrrrrright um.		
12:45:23.2 <b>HOT-1</b>	okay we currently got twelve point three on the fuel. we probabally our alternate burn is three point eight.		
12:45:33.5 <b>HOT-2</b>	okay.		
12:45:34.0 <b>HOT-1</b>	yah.		
12:45:35.6 <b>HOT-2</b>	yeh we got lot's of fuel.		
12:45:37.8 <b>HOT-1</b>	enter the hold.		
12:45:42.9 <b>HOT-2</b>	I'm gonna delete Bradford. is that alright?		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:45:47.2 <b>HOT-1</b>	yeh.		
12:45:53.6 <b>HOT-2</b>	yeh that works.		
12:45:59.3 <b>HOT-2</b>	hold us.		
		12:46:02.2 <b>RDO-1</b>	Southwest nineteen nineteen in the hold.
		12:46:04.2 <b>CTR-C</b>	Southwest nineteen nineteen roger.
12:46:12.1 <b>HOT-1</b>	so I say ah...land with five eight.		
12:46:19.8 <b>HOT-2</b>	okay how come the hold page isn't comin' up. do you have to like go to the outbound? oh...that's how you do it.		
12:46:26.8 <b>HOT-1</b>	[laughter]		
12:46:27.1 <b>HOT-2</b>	there's a hold button.		
12:46:29.8 <b>HOT-1</b>	ah we gotta probably get out of here no less than nine.		
12:46:33.3 <b>HOT-2</b>	okay.		
12:46:34.1 <b>HOT-1</b>	okay.		
12:46:37.2 <b>HOT-2</b>	yeh that land's with five. basically. barely.		



<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:46:39.0 <b>HOT-1</b>	yeh.
12:46:49.8 <b>HOT-1</b>	then if they stick us on the other side we'll look at Indy.
12:46:52.9 <b>HOT-2</b>	yeh.
12:46:55.7 <b>HOT-1</b>	make sense?
12:46:56.8 <b>HOT-2</b>	it does. I agree with the math.
12:46:59.0 <b>HOT-1</b>	how about we talk to dispatch.
12:47:06.7 <b>HOT-2</b>	ahhh ops report isn't it there? yeeahh.
12:47:31.6 <b>HOT-1</b>	hoh.
12:47:32.3 <b>HOT-2</b>	ah no remarks. okay.
12:47:35.8 <b>HOT-1</b>	no not yet no.
12:47:51.4 <b>HOT-1</b>	so we got a guy two thousand feet below us.
12:48:010.0 <b>HOT-1</b>	niner thousand.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:48:07.2 <b>CTR-C</b>	Southwest nineteen nineteen descend and maintain niner thousand.

**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

12:48:13.9  
**HOT-2** niner to nine.

12:48:26.3  
**HOT-1** ten nine out of ten.

12:48:27.7  
**CAM** [sound of double chime, similar to flight attendant call]

12:48:28.4  
**HOT-1** attendants notified. I'm going to do this.

12:48:31.8  
**HOT-2** hold available is fifty five minutes or fifty four minutes...and...that's working off of---

12:48:38.9  
**FA-3** folks we are on final descent right now. please make sure your---

12:48:41.1  
**CAM** [sound of tone, similar to altitude alert]

12:48:45.4  
**HOT-2** we're not on final descent but that's alright.

12:48:46.9  
**HOT-1** no that's alright.

12:49:05.0  
**HOT-1** this is why I like flying on the west coast.

12:49:09.5  
**HOT-2** message received.

12:48:10.8  
**RDO-2** niner thousand Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
12:49:11.9 <b>HOT-1</b>	hold doesn't look like they're holding that long...but if you...very good...Milwaukee.
12:50:08.3 <b>HOT-2</b>	burn to Milwaukee is one point five.
12:50:14.9 <b>HOT-2</b>	I don't like that.
12:50:16.2 <b>HOT-1</b>	yeh I don't either.
12:50:17.7 <b>HOT-1</b>	we'll be going a lot sooner than that.
12:50:20.0 <b>HOT-2</b>	[laughter] he said if you want. I don't want that either.
12:50:29.8 <b>HOT-2</b>	one point five...it's just nothin'.
12:51:14.5 <b>HOT-2</b>	it's not even that much closer. he's just doin' it from the missed approach point.
12:51:15.1 <b>HOT-1</b>	yeh...yeh.
12:51:51.8 <b>HOT-2</b>	busy little guy.
12:52:07.0 <b>HOT-2</b>	okay. seven on approach so that's fifteen minutes.
12:52:19.5 <b>HOT-2</b>	yeh. we'll get a tenth or two overfly. [laughter]. that's alright. it's just gonna mess up our dinner.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

12:52:27.9  
**HOT-2** that's the real problem.

12:52:29.3  
**HOT-1** that's the real deal.

12:52:35.9  
**HOT-2** is it this airplane that goes on?

12:52:37.8  
**HOT-1** no this thing goes to Houston.

12:54:44.5  
**HOT-1** oh joy.

12:54:58.7  
**HOT-1** there he is.

12:55:21.1  
**HOT-1** well they're descending him.

12:55:31.4  
**HOT-1** eight thousand feet.

12:55:34.1  
**HOT-2** \* turn on him we can get him.

12:55:37.6  
**HOT-1** flush the toilet right on em'.

12:55:42.6  
**HOT-2** nine eight.

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

12:55:25.6  
**CTR-C** Southwest nineteen nineteen descend and maintain eight thousand.

12:55:29.4  
**RDO-2** eight thousand Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:55:44.3 <b>CAM</b>	[sound of tone, similar to altitude alert]		
12:55:45.0 <b>HOT-1</b>	nine eight.		
12:55:50.6 <b>HOT-2</b>	well I guess I'll get the latest greatest.		
12:56:21.3 <b>HOT-2</b>	brand new...six miles and rain.		
12:57:13.7 <b>HOT-2</b>	well I'll run it with the winds.		
12:57:15.6 <b>HOT-1</b>	okay.		
12:57:19.4 <b>HOT-2</b>	instead of three hundred seventy we'll have ah four seventy we'll have ah...I don't know.		
		12:57:42.3 <b>CTR-C</b>	attention all aircraft hazardous weather information convective sigment six nine eastern for Tennessee, Kentucky at five one central for Illinois...available HIWAS, flight watch, flight service frequencies.
12:58:12.2 <b>HOT-2</b>	ah better stoppin' margin and we weigh less too so I'll...let's put in a fictitious weight.		
12:58:13.0 <b>HOT-1</b>	yah..yah..yah		
		12:58:23.3 <b>CTR-C</b>	Southwest nineteen nineteen descend and maintain seven thousand.
		12:58:27.2 <b>RDO-2</b>	seven thousand Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
12:58:28.7 <b>HOT-1</b>	seven thousand.		
12:58:29.8 <b>HOT-2</b>	anyway seven hundred and twenty at max.		
12:58:31.9 <b>HOT-1</b>	okay.		
12:58:33.8 <b>HOT-1</b>	eight for seven.		
12:58:35.0 <b>HOT-2</b>	twenty eight...eight seven.		
12:58:42.5 <b>CAM</b>	[sound of tone, similar to altitude alert]		
12:59:50.7 <b>HOT-1</b>	ha-ha there he is.		
12:59:53.5 <b>HOT-2</b>	that's right we could take him.		
13:01:40.9 <b>HOT-2</b>	it's forty at uh Chicago now. two nine four zero.		
13:01:44.4 <b>HOT-1</b>	thank you.		
13:02:44.0 <b>HOT-1</b>	oh this is a bunch of fun.		
13:02:46.8 <b>HOT-2</b>	yeh I could hit him with a rock now I think.		
13:02:50.0 <b>HOT-1</b>	where is it?		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:02:51.1 <b>HOT-2</b>	he's right right there.
13:04:16.8 <b>HOT-1</b>	did we finally pass em'.
13:04:18.0 <b>HOT-2</b>	yep.
13:04:21.3 <b>HOT-2</b>	you gave him our tail man. he's gonna get us now.
13:04:23.3 <b>HOT-1</b>	[laughter]
13:04:28.7 <b>HOT-2</b>	yeh he's flyin' slow because we ah we went right by him.
13:04:30.2 <b>HOT-1</b>	yeh.
13:04:32.5 <b>HOT-2</b>	I'd say he's like one eighty or somethin' crazy.
13:04:48.0 <b>HOT-1</b>	the whole gang is here.
13:05:51.0 <b>HOT-2</b>	yeh the crowd keeps tempin' it down.
13:05:53.0 <b>HOT-1</b>	yeh.
13:07:13.9 <b>HOT-1</b>	buildin' time for the majors.
13:07:16.2 <b>HOT-2</b>	that's it.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:07:17.8 <b>HOT-2</b>	at least for triple a.		
13:07:19.2 <b>HOT-1</b>	yeh.		
13:07:21.5 <b>HOT-2</b>	yeh I guess we're gonna make our E-F-C man.		
13:07:31.5 <b>HOT-2</b>	so much for a tenth.		
13:07:33.1 <b>HOT-1</b>	yeh.		
13:07:38.9 <b>HOT-2</b>	now it's up to three tenths maybe four.		
13:07:45.5 <b>HOT-2</b>	the dilemma. you'll make enough for lunch but you won't have time to eat it.		
13:07:51.4 <b>HOT-1</b>	[laughter]		
13:07:55.2 <b>HOT-2</b>	haah in the mean time this stuff grows.		
13:07:58.3 <b>HOT-1</b>	yah.		
13:08:00.6 <b>HOT-2</b>	tornado watch.		
13:08:03.0 <b>HOT-1</b>	nice.		
13:08:04.9 <b>HOT-2</b>	dispatchee. dispatchio. any word?		



<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:08:08.8 <b>HOT-1</b>	not yet.
13:08:10.1 <b>HOT-2</b>	what kind of word do you want. any word. ahh slow.
13:08:32.2 <b>HOT-2</b>	could send back palabra.
13:08:33.9 <b>HOT-1</b>	yeh.
13:08:45.8 <b>HOT-2</b>	dispatch is always optimistic.
13:08:47.9 <b>HOT-1</b>	yeh oh ah.
13:08:50.3 <b>HOT-2</b>	I was too I didn't think it would take this long but.
13:08:54.9 <b>HOT-2</b>	yeh. get to the outer marker divert with one point five to Milwaukee. you'll be fine.
13:09:00.4 <b>HOT-1</b>	[laughter]
13:09:03.0 <b>HOT-1</b>	we're seventy five miles from the field so.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:08:15.8 <b>RDO-1</b>	and approach Southwest nineteen nineteen ah how's it how's it lookin'?
13:08:19.8 <b>CTR-C</b>	ah we'll give em' a phone call here. standby.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:09:06.1 <b>HOT-2</b>	I know I think Indy is the closest right now but.
13:09:12.5 <b>HOT-2</b>	there's probably more diversions coming from the east than there are from the west ***.
13:09:15.4 <b>HOT-1</b>	yeh.
13:09:27.9 <b>HOT-2</b>	thanks.
13:09:40.7 <b>HOT-2</b>	boom shock a locka.
13:10:05.7 <b>HOT-2</b>	temperature is droppin again. #.
13:10:21.5 <b>HOT-2</b>	must be in a downdraft.
13:10:27.2 <b>HOT-1</b>	or an updraft.
13:10:28.6 <b>HOT-2</b>	yeh the other side.
13:11:11.6 <b>HOT-1</b>	wonder if they'd get mad if you declared O'Hare as your alternate. [laughter]
13:11:18.7 <b>HOT-2</b>	that would work.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:09:17.4 <b>CTR-C</b>	ok and uh everyone in the hold for Midway about three or four more minutes as long as you're R-N-P capable you'll be able to go to Midway. otherwise you'll still have to hold.

**TIME and SOURCE**                      **INTRA-AIRCRAFT CONTENT**

13:11:28.5  
**HOT-2**                      well there's Dupage there's Gary there's---

13:11:58.7  
**HOT-2**                      so we got one more turn probably.

13:12:03.5  
**HOT-2**                      they'll give us JOLIET after we come out of it.

13:12:08.5  
**HOT-1**                      they gotta squirt him out ahead of us.

13:12:10.9  
**HOT-2**                      yeh.

13:13:05.8  
**HOT-1**                      right turn JOLIET direct.

13:13:22.1  
**HOT-1**                      correct.

**TIME and SOURCE**                      **AIR-GROUND COMMUNICATION CONTENT**

13:12:58.5  
**CTR-C**                      Southwest nineteen nineteen you're cleared to Midway via direct a right turn direct JOLIET direct maintain seven thousand.

13:13:07.1  
**RDO-2**                      okay right turn direct JOLIET um Southwest nineteen nineteen. and say again maintain seven thousand.

13:13:16.8  
**CTR-C**                      ah yes stay at that altitude and just to ah verify you are ah R-N-P qualified correct?

13:13:22.7  
**RDO-2**                      yes maam R-N-P qualified. right turn direct JOLIET seven thousand Southwest nineteen nineteen.

13:13:28.2  
**CTR-C**                      thanks.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:13:33.7 <b>HOT-2</b>	right on. right on time man. fifteen. yeh kind of.
13:13:34.9 <b>HOT-1</b>	yeh...yeh.
13:13:51.9 <b>HOT-1</b>	two fifty on the knots. here we go.
13:14:18.1 <b>HOT-2</b>	yeah.
13:14:22.9 <b>HOT-2</b>	alright thirty seven miles to JOLIET.
13:14:49.1 <b>HOT-1</b>	wanna send uh dispatch a quick one?
13:14:50.9 <b>HOT-2</b>	yeah.
13:14:52.6 <b>HOT-1</b>	thank you.
13:15:10.4 <b>HOT-2</b>	close enough.
13:15:12.0 <b>HOT-?</b>	(missed or mist)

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:13:42.4 <b>CTR-C</b>	Southwest nineteen nineteen maintain two five zero knots now.
13:13:46.9 <b>RDO-2</b>	two fifty knots ah when we get turned around Southwest nineteen nineteen.

**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

13:16:18.2  
**HOT-1** two ten.

13:16:20.1  
**HOT-1** \*\*\*

13:16:24.0  
**HOT-2** do you want to go left or right?

13:16:24.6  
**HOT-1** yeah let's go left.

13:16:37.1  
**HOT-1** okay.

13:16:42.9  
**HOT-2** yeee.

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:16:11.5  
**CTR-C** Southwest nineteen nineteen reduce airspeed to two one zero knots now.

13:16:16.0  
**RDO-2** two ten knots Southwest nineteen nineteen.

13:16:26.4  
**RDO-2** Southwest nineteen nineteen ah we got a build up in front ah comin' about ah five to ten left?

13:16:31.6  
**CTR-C** oh yeah that's great Southwest nineteen nineteen deviation ten degrees left is approved. let me know when you are able back direct JOLIET.

13:16:37.4  
**RDO-2** wilco Southwest nineteen nineteen.

**TIME and  
SOURCE**

**INTRA-AIRCRAFT CONTENT**

13:16:57.1  
**HOT-1** six.

13:16:59.8  
**HOT-1** she said two ten right?

13:17:01.2  
**HOT-2** right \*\*.

13:17:10.9  
**CAM** [sound of tone, similar to altitude alert]

13:17:11.9  
**HOT-1** and six point eight for six thousand \*.

13:17:14.4  
**HOT-2** seven for six.

13:17:16.5  
**HOT-2** back direct now?

13:17:17.9  
**HOT-1** ah just gonna skim this just a little bit \* know past this overhang here.

13:17:20.0  
**HOT-2** okay.

**TIME and  
SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:16:53.8  
**CTR-C** thank you. Southwest nineteen nineteen descend and maintain six thousand.

13:16:57.0  
**RDO-2** down to six Southwest nineteen nineteen.

13:17:37.4  
**RDO-2** Southwest nineteen nineteen ah back to JOLIET.

**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

13:18:06.0  
**HOT-1** JOLIET-ahhhh L-nav.

13:18:27.9  
**HOT-1** we should have no problem but I'd say ah no less than what eight thousand at the fix to get to Milwaukee?

13:18:34.4  
**HOT-2** yeah what'a we got now nine ten.

13:18:36.6  
**HOT-1** just over ten yeah.

13:18:39.0  
**HOT-2** yeah.

13:18:43.2  
**HOT-2** yeah 'cause that will give you...about six to Milwaukee I agree with that.

13:18:47.6  
**HOT-1** right.

13:18:51.3  
**HOT-1** two ten assigned.

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:17:40.4  
**CTR-C** Southwest nineteen nineteen roger back direct JOLIET thank you.

13:18:49.2  
**CTR-C** Southwest nineteen nineteen say your airspeed.

13:18:51.8  
**RDO-2** two ten as assigned Southwest nineteen nineteen.

13:18:54.1  
**CTR-C** thank you. Southwest nineteen nineteen contact Chicago approach one one niner point three five let 'em know. have a beautiful day.

**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

13:19:33.3  
**HOT-1** did he just say a hundred and seventy knots?

13:19:34.9  
**HOT-2** he said a hundred and seventy. yes.

13:19:36.6  
**HOT-1** wwwwoowww.

13:19:37.9  
**HOT-2** R-nav R-N-P yankee.

13:19:49.7  
**HOT-1** JOLIET join the final approach course.

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:18:59.7  
**RDO-2** nineteen thirty five wilco Southwest nineteen nineteen.

13:19:02.4  
**CTR-C** thank you.

13:19:16.7  
**RDO-2** Southwest nineteen nineteen six thousand two ten knots oscar.

13:19:20.1  
**APR** Southwest nineteen nineteen Chicago approach expect R-nav R-N-P yankee one three center approach Midway reduce speed to one seven zero.

13:19:27.3  
**RDO-2** one seventy knots R-nav R-N-P yankee one three center Southwest nineteen nineteen.

13:19:46.3  
**APR** Southwest nineteen nineteen also at JOLIET intercept the final approach course.



**TIME and  
SOURCE**

**INTRA-AIRCRAFT CONTENT**

13:19:57.9  
**HOT-1** don't know what he means.

13:19:59.8  
**HOT-2** you want a flap?

13:20:01.1  
**HOT-1** yep flaps one er flaps five yeah thanks.

13:20:01.8  
**CAM** [sound of double-click, similar to flap handle movement]

13:20:04.4  
**HOT-1** flaps one will work.

13:20:05.3  
**HOT-2** oh okay. I've got it at two.

13:20:06.8  
**HOT-1** that's good.

13:20:07.2  
**HOT-2** one seventy knots right. one seventy.

13:20:08.6  
**HOT-1** yep.

13:20:09.4  
**HOT-1** thank you.

13:20:12.1  
**HOT-2** he's just really like throwin' curve balls at us.

13:20:14.1  
**HOT-1** yeah. no kiddin'.

**TIME and  
SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:19:51.8  
**RDO-2** join ah final approach course at JOLIET Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:20:15.1 <b>HOT-1</b>	okay I've got the R-N-P yankee ten er twelve twenty.
13:20:27.9 <b>HOT-2</b>	twelve twenty thank you.
13:20:34.0 <b>HOT-1</b>	[humming] R-nav.
13:20:38.6 <b>HOT-1</b>	there it is. yank-me.
13:20:42.5 <b>HOT-1</b>	okay...now it makes sense.
13:20:43.3 <b>HOT-2</b>	okay now it makes sense.
13:20:45.8 <b>HOT-1</b>	TOYUL.
13:20:51.4 <b>HOT-1</b>	two thousand five hundred.
13:20:58.0 <b>HOT-2</b>	two thousand five hundred.
13:21:03.3 <b>HOT-2</b>	actually I guess we could go V-nav speed intervention if you want right?

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:20:47.3 <b>APR</b>	Southwest nineteen nineteen once you've slowed descend and maintain two thousand five hundred.
13:20:52.3 <b>RDO-2</b>	after slowing two thousand five hundred Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:21:08.4 <b>HOT-1</b>	yep.
13:21:11.7 <b>HOT-1</b>	perfect.
13:21:13.9 <b>HOT-1</b>	thank you.
13:21:14.3 <b>HOT-2</b>	is it one seventy or one seventy five?
13:21:16.3 <b>HOT-1</b>	i'm gonna due one seventy just just cause...bouncin' in and out of these clouds.
13:21:17.2 <b>HOT-2</b>	okay.
13:21:19.6 <b>HOT-2</b>	alright.
13:21:20.6 <b>HOT-1</b>	alright sir I got if you want to follow along on the box here real quick.
13:21:23.3 <b>HOT-2</b>	right.
13:21:24.7 <b>HOT-1</b>	TOYUL at four thousand it's mandatory that is the I-F. and then GIKLE twenty five hundred mandatory.
13:21:28.2 <b>HOT-2</b>	right.
13:21:31.6 <b>HOT-1</b>	JUPIR two thousand mandatory max two ten on the knots. we got no problems with there. turning into NIDEE.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:21:38.2 <b>HOT-1</b>	DULTE and a one thirty five inbound to the ah approach. ten sixty five ten sixty five is the ah R-N-P.		
13:21:52.3 <b>HOT-1</b>	and let's make sure we set the box up with the point three.		
13:21:57.8 <b>HOT-2</b>	yeah.		
13:22:00.4 <b>HOT-1</b>	annnnddd.		
13:22:02.3 <b>HOT-2</b>	actually after actu...when we get to TOYUL...right okay.		
13:22:06.4 <b>HOT-1</b>	yeah.		
13:22:08.0 <b>HOT-2</b>	alright um. no questions so far.		
13:22:11.4 <b>HOT-1</b>	okay.		
13:22:12.4 <b>HOT-2</b>	oh and it's a glide path of three degrees.		
13:22:14.6 <b>HOT-1</b>	three degrees. okay.		
13:22:38.2 <b>HOT-1</b>	so let's delete that TOYUL altitude.		
13:22:43.1 <b>HOT-2</b>	okay.		
13:22:44.0 <b>HOT-1</b>	it's gonna be below us er above us.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:22:45.3 <b>HOT-2</b>	right.		
13:22:48.6 <b>HOT-2</b>	you can do it up there too right?		
13:22:50.0 <b>HOT-1</b>	yep.		
13:22:52.6 <b>HOT-1</b>	old school man. old school.		
13:22:53.8 <b>HOT-2</b>	[laughter]		
13:22:59.7 <b>HOT-2</b>	you know that works but you're still wondering about it.		
13:23:01.6 <b>HOT-1</b>	yeah.		
13:23:21.5 <b>HOT-2</b>	thirty five for twenty five.		
13:23:24.1 <b>HOT-1</b>	alright.		
13:23:35.6 <b>CAM</b>	[sound of low tone, similar to altitude alert]		
		13:23:46.8 <b>RDO-2</b>	[other aircraft was telling controller they could not find the RNP Y RWY 13C approach chart]. twelve dash twenty.
13:23:50.6 <b>HOT-1</b>	exec jet they don't have it.		
13:23:52.5 <b>HOT-2</b>	oh I thought it was us.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:23:52.9 <b>HOT-1</b>	different.
13:23:54.2 <b>HOT-1</b>	yeah.
13:23:54.7 <b>HOT-1</b>	and that's three thousand for twenty five hundred.
13:23:57.7 <b>HOT-2</b>	three *
13:23:58.5 <b>HOT-1</b>	TOYUL.
13:24:00.6 <b>HOT-1</b>	oil and toil and eye of newt.
13:24:20.5 <b>HOT-?</b>	ah man.
13:24:23.5 <b>HOT-2</b>	be * by the time we...
13:24:33.6 <b>HOT-1</b>	alright once we're inside we go point three.
13:24:37.5 <b>HOT-2</b>	I agree.
13:25:56.8 <b>HOT-2</b>	man this is really fightin' all this wind.
13:25:58.6 <b>HOT-1</b>	yeah it is.
13:26:03.9 <b>HOT-2</b>	temperature's popped up too.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:26:05.7 <b>HOT-1</b>	yep.
13:26:46.1 <b>HOT-1</b>	cleared the approach ready?
13:26:47.5 <b>HOT-2</b>	yes.
13:26:48.4 <b>HOT-1</b>	zero set.
13:26:49.5 <b>HOT-2</b>	and point three-ish.
13:26:51.6 <b>HOT-1</b>	point three.
13:26:54.0 <b>HOT-1</b>	got it.
13:26:59.4 <b>HOT-1</b>	ten mile arc is set.
13:27:04.8 <b>HOT-2</b>	what's the ten mile arc again?
13:27:06.8 <b>HOT-1</b>	ah once you're on the approach ten mile ring. yeah.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:26:31.3 <b>APR</b>	Southwest nineteen nineteen three miles from TOYUL cleared for R-nav R-N-P yankee runway one three center approach Midway maintain one seven zero knots.
13:26:39.9 <b>RDO-2</b>	cleared R-nav R-N-P yankee ah Southwest nineteen nineteen a hundred and seventy knots .

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:27:09.6 HOT-2	oh...right.		
13:27:15.4 HOT-2	well I was trying to figure out if that's real or it's buildings.		
13:27:18.8 HOT-1	yeah its.		
13:27:24.3 HOT-2	so I'll join ya' in a little bit.		
13:27:25.9 HOT-1	okay.		
13:27:32.6 HOT-2	I'm thinkin' that's a cloud because I'm five up.		
13:27:36.1 HOT-2	an ah the city's further north.		
13:27:40.5 HOT-2	so.		
13:27:41.0 HOT-1	right.		
13:28:11.9 HOT-2	[laughter] [referring to other aircraft] he's trying to figure out can we do that.		
13:28:14.5 HOT-1	[laughter]		
13:28:17.0 HOT-2	yeah.		
13:28:20.5 HOT-1	there's O'hare right there.		



<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:28:28.5 <b>HOT-2</b>	yeah that's the problem with one three.
13:28:30.4 <b>HOT-1</b>	yep.
13:28:31.0 <b>HOT-2</b>	backyard.
13:28:40.1 <b>HOT-1</b>	JUPIR got it.
13:28:55.8 <b>HOT-1</b>	alright descending to two thousand.
13:29:07.8 <b>HOT-2</b>	yes but when.
13:29:08.8 <b>HOT-1</b>	[laughter] yeah.
13:29:11.1 <b>HOT-1</b>	come on baby.
13:29:13.8 <b>HOT-2</b>	it's the positive control there the little green arc went out. that's that's my indication.
13:29:16.5 <b>HOT-1</b>	yep.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:28:32.1 <b>APR</b>	Southwest nineteen nineteen uhm maintain one seven zero knots till JUPIR and at JUPIR contact Midway tower one one eight point seven.
13:28:40.9 <b>RDO-2</b>	tower at JUPIR Southwest nineteen nineteen.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:29:23.1 <b>HOT-1</b>	alright that's close enough for me let's go landing gear down.		
13:29:26.9 <b>HOT-2</b>	landing gear down.		
13:29:28.8 <b>CAM</b>	[sound of increase noise, similar to landing gear extension]		
13:29:29.0 <b>HOT-1</b>	flaps to fifteen.		
13:29:30.3 <b>HOT-2</b>	fifteen.		
13:29:31.4 <b>CAM</b>	[sound of click, similar to flap handle]		
		13:29:37.0 <b>AC-A</b>	and tower Southwest two seventy two that's wet fair braking.
13:29:40.8 <b>HOT-?</b>	** fair.		
13:29:42.5 <b>HOT-?</b>	[exhale]		
		13:29:43.3 <b>TWR</b>	seven papa mike the first arrival reported wet and fair braking on runway one three center.
13:29:43.3 <b>HOT-2</b>	you want me to re-run it?		
13:29:47.5 <b>HOT-1</b>	flaps twenty five please.		
13:29:49.0 <b>HOT-2</b>	twenty five.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:29:49.8 <b>HOT</b>	[sound of click]		
13:29:50.2 <b>HOT-1</b>	slow down baby slow down baby.		
13:29:51.7 <b>HOT-2</b>	yeah you can give it back two.		
13:29:52.5 <b>HOT-1</b>	yeah.		
13:29:53.1 <b>HOT-2</b>	aw and we're overspeed *.		
13:29:54.0 <b>HOT-1</b>	yeah yeah.		
13:29:54.6 <b>HOT-1</b>	#.		
13:29:56.2 <b>CAM</b>	[sound of click, similar to flap handle]		
13:29:56.6 <b>HOT-2</b>	I went back to eh.		
13:29:57.6 <b>HOT-1</b>	yeah.		
13:29:58.8 <b>HOT-2</b>	it didn't I don't think it went.		
13:30:02.6 <b>HOT-1</b>	what's that yeh we're in V-nav path.		
13:30:04.5 <b>HOT-2</b>	yeah you want ah---		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:30:05.2 <b>HOT-1</b>	flaps thirty.		
13:30:06.0 <b>HOT-2</b>	thirty.		
13:30:09.6 <b>HOT-1</b>	ahh ahh.		
13:30:10.7 <b>HOT-2</b>	thirty.		
13:30:11.2 <b>CAM</b>	[sound of click, similar to flap handle]		
13:30:11.5 <b>HOT-?</b>	sheesh'.		
13:30:13.4 <b>HOT-1</b>	yeah we oversped.		
13:30:16.3 <b>HOT-1</b>	flaps to forty.		
13:30:17.2 <b>HOT-2</b>	flaps to forty.		
13:30:18.0 <b>CAM</b>	[sound of double-click, similar to flap handle]		
13:30:20.1 <b>HOT-1</b>	# look at that rain fall right---		
13:30:25.1 <b>HOT-2</b>	and we're still good...		
13:30:26.1 <b>HOT-1</b>	okay.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:30:26.6 <b>HOT-2</b>	...two hundred foot margin.		
13:30:28.1 <b>HOT-1</b>	I can see the end of the runway but I can see that rain squall right there too so.		
13:30:33.8 <b>HOT-1</b>	ask tower which way that line of weather er water is moving. you see the runway right there?		
13:30:37.8 <b>HOT-2</b>	yeah I do.		
13:30:38.6 <b>HOT-1</b>	okay.		
		13:30:40.3 <b>RDO-2</b>	tower Southwest ah nineteen nineteen JUPIR inbound. ah which way is the ah rain shower moving?
		13:30:47.4 <b>TWR</b>	airport nineteen nineteen Midway tower you are following traffic short final runway one three center cleared to land. winds two one zero at niner. the rain is moving to the east to north east.
13:30:58.9 <b>HOT-1</b>	okay thank you.		
		13:31:00.5 <b>RDO-2</b>	ah one three center cleared to land thanks Southwest nineteen nineteen.
13:31:07.1 <b>HOT-?</b>	*		
13:31:09.0 <b>HOT-2</b>	ah L-nav V-nav path.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:31:11.1 <b>HOT-1</b>	ah L-nav V-nav zero set thank you.
13:31:37.2 <b>HOT-1</b>	alright approaching minimums.
13:31:40.3 <b>HOT-2</b>	uh oh yah I hold on a second is that right?
13:31:43.3 <b>HOT-1</b>	yeah.
13:31:43.7 <b>HOT-2</b>	yeah okay approaching minimums.
13:31:47.1 <b>CAM</b>	[sound of three warning horns, similar to autopilot disconnect warning]
13:31:49.6 <b>HOT-2</b>	minimums.
13:31:50.1 <b>HOT-1</b>	landing.
13:32:04.5 <b>HOT-2</b>	I * set it wrong.
13:32:05.6 <b>HOT-2</b>	na'h ya- okay this is the approach I was looking for the green bar.
13:32:08.8 <b>HOT-1</b>	oh yeah.
13:32:08.9 <b>HOT-2</b>	that's what threw me off that was through the thousand foot mark anyway.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:32:11.5 <b>HOT-1</b>	okay okay gotchy'a.
13:32:13.2 <b>HOT-2</b>	I knew there was somethin' wrong with that.
13:32:16.6 <b>HOT-2</b>	* I'd set mine wrong.
13:32:18.6 <b>HOT-2</b>	anyway still clear to land.
13:32:19.7 <b>HOT-1</b>	yep.
13:32:20.1 <b>HOT-2</b>	looks like ah we've gotta...a gusty wind.
13:32:23.5 <b>HOT-1</b>	yeah * progress * (two) (page).
13:32:30.4 <b>HOT-2</b>	six knots from the right.
13:32:33.8 <b>HOT-2</b>	there's aye ah we're already landing
13:32:54.7 <b>HOT-1</b>	thank you.
13:32:54.9 <b>CAM</b>	[sound similar to windshield wipers continues until and through landing rollout]

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:32:51.5 <b>TWR</b>	Southwest three seventy six Midway tower company departure to cross prior to your arrival wind two two zero at one zero gust one seven runway one three center cleared to land.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:32:56.5 <b>HOT-2</b>	ah fifty.
13:33:00.8 <b>HOT-2</b>	ten.
13:33:03.6 <b>CAM</b>	[sound similar to touchdown]
13:33:04.8 <b>CAM</b>	[sound of rumbling, similar to touchdown]
13:33:05.0 <b>HOT</b>	[unidentified .03 second sound] (may be sound of mechanical solenoid associated with landing)
13:33:010.0 <b>HOT-2</b>	gett(in') on the brakes.
13:33:11.1 <b>HOT-1</b>	[straining] I got no brakes man [exhale].
13:33:12.7 <b>HOT-2</b>	ut.
13:33:14.2 <b>HOT-1</b>	get get on em'
13:33:15.0 <b>HOT-2</b>	I'm on em' with yah.
13:33:16.2 <b>HOT</b>	[sound of pilot straining]
13:33:18.8 <b>HOT-1</b>	#
13:33:20.0 <b>HOT-?</b>	* power power power *

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:33:24.1 <b>HOT-1</b>	#		
13:33:26.1 <b>CAM</b>	[sound of three loud shudders]		
		13:33:31.5 <b>TWR</b>	Southwest nine...teen...nine...teen--
13:33:32.5 <b>CAM</b>	[sound of increase engine noise, similar to thrust reversers]		
13:33:35.3 <b>CAM</b>	[sound of low frequency rumble, similar to travel over rumble strips]		
13:33:36.9 <b>HOT-1</b>	#		
13:33:40.4 <b>HOT-1</b>	#		
13:33:40.9 <b>CAM</b>	[sound of decrease in engine noise]		
		13:33:42.9 <b>TWR</b>	Southwest three seventy six go around climb and maintain three thousand company went off--
13:33:48.2 <b>PA-1</b>	ladies and gentlemen remain in your seats.		
		13:33:49.5 <b>AC-B</b>	okay go around maintain three thousand Southwest three seventy six.
13:33:53.1 <b>HOT-1</b>	#		
		13:33:57.6 <b>TWR</b>	Southwest nineteen nineteen everybody okay on board?

**TIME and  
SOURCE**

**INTRA-AIRCRAFT CONTENT**

13:34:00.3  
**CAM** [sound similar to seat belts, seat moving]

13:34:05.3  
**CAM** [sound similar to cockpit door opening]

13:34:07.0  
**CAM-1** you see any fire? no fire okay.

13:34:10.3  
**CAM** [remote unintelligable voice]

13:34:11.5  
**CAM-1** okay

13:34:15.1  
**CAM-1** okay

13:34:16.2  
**CAM** [sound of multiple clicks and clacks, similar to seatbelts]

13:34:19.4  
**CAM-1** ladies and gentlemen everybody stay in your seats everything is fine okay. there is no fire no nothin'. stay right there. we got stairs on the way.

13:34:28.7  
**CAM** [sound of multiple clicks and clacks, similar to seatbelts]

**TIME and  
SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:34:00.2  
**RDO-2** yeah we're all in place ah...just off into the grass.

13:34:06.7  
**TWR** Airport eighty four need to drive one three center.

13:34:14.2  
**TWR** Airport eighty four readback.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:34:30.8 <b>CAM-2</b>	did it. it just cycled off?
13:34:33.5 <b>CAM-1</b>	no I ah.
13:34:37.1 <b>CAM-1</b>	it wasn't s--
13:34:38.9 <b>CAM-4</b>	[low volume voice] captain
13:34:39.9 <b>CAM-1</b>	yes.
13:34:40.5 <b>CAM-4</b>	* fire department is on the way.
13:34:42.6 <b>CAM-1</b>	okay.
13:34:43.2 <b>CAM-4</b>	um I don't know if we're going to be able to get out of here.
13:34:45.5 <b>CAM-1</b>	okay should we...
13:34:46.6 <b>CAM-4</b>	***
13:34:47.6 <b>CAM-1</b>	okay.
13:34:53.2 <b>CAM-1</b>	we touched--
13:34:53.8 <b>CAM-4</b>	**

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:34:54.6 CAM-1	okay.		
13:34:55.7 CAM-1	we touched down...		
13:34:58.6 CAM-1	...came back in...		
13:35:00.1 CAM	[sound of sirens increasing in volume]		
13:35:01.6 CAM-2	did you go forward with the ah...reversers? cause you were out of it.		
13:35:06.9 CAM-1	I was out of 'em. yeah.		
13:35:09.7 CAM-1	did I activate 'em?		
13:35:14.1 CAM-2	I thought you did but I looked up and the the autobrake was disarmed and we weren't slowin' down and then---		
13:35:19.3 CAM-1	I was gettin' on the brakes as hard as I could.		
13:35:29.0 CAM-?	pull the ah---		
13:35:35.7 CAM-?	um.		
13:35:38.1 CAM-2	okay now its a matter of taking care of the passengers.		
13:35:40.3 CAM-1	yes yes.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:35:40.8 <b>CAM-2</b>	so we need to...we're going to run stairs is that it?
13:35:40.8 <b>CAM-1</b>	they are on their way...fire trucks are here...yes.
13:35:57.7 <b>CAM-1</b>	hey you guys no one talks to anybody. ok?
13:36:32.5 <b>CAM</b>	[unintelligible conversations by other than cockpit crew]

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:35:49.6 <b>RDO-2</b>	Chicago ops nineteen nineteen.
13:35:52.7 <b>OPS</b>	welcome nineteen nineteen we are going to see you at bravo twenty three. ah with no services. can you tell me the runway you landed and what were the conditions?
13:36:03.8 <b>RDO-2</b>	yeah we are off the runway and I just want to ah coordinate with you we've got stairs or somethin' comin'. we are in the grass. no one's hurt. we are off of one three center. just beyond the taxi end.
13:36:16.4 <b>TWR</b>	Southwest niner one niner...correction Southwest nineteen nineteen tower.
13:36:24.6 <b>TWR</b>	Southwest nineteen nineteen tower.
13:36:25.2 <b>RDO-2</b>	okay I just want to make sure you are aware of that and we are activating ground personnel for stairs for tug or both.
13:36:32.4 <b>OPS</b>	okay ah you're off the runway in the grass what runway did you come off of? thirteen center.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:36:36.2 <b>CAM-1</b>	was it the gusty wind or the tailwind that did us?
13:36:47.0 <b>CAM-?</b>	#
13:36:51.5 <b>HOT-1</b>	hey you talkin' to me? this is the captain. hello.
13:36:57.5 <b>HOT-1</b>	hello. hello. hello.
13:37:02.7 <b>HOT-1</b>	hello guys.
13:37:14.0 <b>HOT-1</b>	it was ah--
13:37:14.9 <b>HOT-1</b>	the count was one thirty four.
13:37:17.7 <b>HOT-2</b>	yeah.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:36:41.5 <b>RDO-2</b>	one three center. affirmative.
13:37:03.4 <b>OPS</b>	nineteen nineteen are you up?
13:37:07.1 <b>RDO-2</b>	yes go ahead.
13:37:08.4 <b>OPS</b>	um do you know how many passengers you have on that aircraft?
13:37:14.5 <b>RDO-2</b>	standby.

**TIME and SOURCE**

**INTRA-AIRCRAFT CONTENT**

13:37:22.4  
**HOT-1** one thirty four.

13:37:42.4  
**CAM-1** yeah. we have no oth-- no oth-- no other indications. we still have it on A-P-U power. you want us to shut that off?

13:37:51.8  
**CAM-1** yes.

13:37:55.4  
**CAM-1** take the A-P-U down? okay.

13:38:00.5  
**CAM-1** alright.

13:38:04.5  
**CAM** [distant voice asks how many people on board]

**TIME and SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:37:19.4  
**RDO-2** we got. we got one thirty four passengers.

13:37:23.8  
**OPS** okay we're going to get emergency vehicles over there.

13:37:28.0  
**RDO-2** thank you.

13:37:30.0  
**RDO-2** yeah we have emergency vehicles here. we have some ground crew.

13:37:36.6  
**RDO-2** just wondering about airstairs.

13:37:38.8  
**OPS** okay we will arrange for airstairs.

13:37:41.9  
**RDO-2** thank you.

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:38:05.4 <b>CAM-1</b>	one three four plus five on the crew.
13:38:09.9 <b>CAM-1</b>	awe @ am so sorry.
13:38:13.4 <b>CAM-1</b>	it was not stopping.
13:38:14.8 <b>HOT-2</b>	I know it was like nothing was there.
13:38:15.4 <b>CAM-1</b>	the guy just reported wet fair.
13:38:15.4 <b>HOT-2</b>	fair and we ran it with fair.
13:38:20.1 <b>HOT-2</b>	but it didn't have a whole lot of margin.
13:38:21.7 <b>CAM-1</b>	yep.
13:38:23.3 <b>HOT-2</b>	had the winds changed.
13:38:26.7 <b>HOT-2</b>	it was less than fair.
13:38:27.8 <b>CAM-1</b>	yeah * we touched down * yeah.
13:38:27.8 <b>HOT-2</b>	there was nothin'...I was on the brakes with ya' and nothin' was slowin' down... nothin'.
13:38:32.7 <b>CAM-1</b>	I didn't have--these were not. these were not up.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:38:35.2 <b>HOT-2</b>	yeah and I saw that and I-I-I told you get 'em up and I thought you had come out with 'em but. I was wondering why this was disarmed.
13:38:36.4 <b>CAM-1</b>	yeah..yeah...
13:38:46.8 <b>HOT-2</b>	where did--do you remember where we touched down? we were in the zone. were were before it.
13:38:50.6 <b>CAM-1</b>	yeah.
13:38:52.0 <b>CAM-1</b>	cause I chopped the power early.
13:38:54.2 <b>CAM-1</b>	let's pull the--let's shut this off.
13:38:57.4 <b>HOT-2</b>	yeah...okay let's do the checklist here...evacuation not required ah.
13:38:58.3 <b>CAM-1</b>	yeah.
13:39:02.2 <b>CAM-1</b>	ah...emergency evac.
13:39:22.7 <b>HOT-2</b>	ah #...flight controls..what is it.
13:39:34.1 <b>HOT-2</b>	we're not doin' an emergency evacuation. we've done everything for it. ah we are just in the grass. with the A-P-U running. ah there is not a checklist...yeah.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:39:47.4 <b>CAM-1</b>	guys I need--what channel are you on? yeah I'm not on anything. What do you need?		
13:39:55.0 <b>CAM-1</b>	are they bringin' stairs or are we gonna--okay.		
13:40:00.9 <b>CAM-1</b>	okay...the problem I know it's really wet so the stairs are probabally gonna get stuck. yeah.		
13:40:09.7 <b>CAM-1</b>	how about I ah.		
13:40:18.4 <b>PA-1</b>	and a ladies and gentlemen as you can see outside we've got all the equipment we need our problem is the ground is so wet ah some of the equipment might sink so we are trying to make the decision how to get the stairs up to the aircraft in a safe manner. we'll have you out of this aircraft as quick as we can.		
13:40:43.0 <b>HOT-2</b>	I don't know. I don't know.		
13:40:46.6 <b>CAM-1</b>	we're safe that's all that matters.		
13:40:50.1 <b>HOT-2</b>	yeah exactly.		
13:40:51.0 <b>CAM</b>	[unintelligible voices from cabin]		
13:40:52.1 <b>CAM-1</b>	yes. absolutely. okay. okay.		
13:40:57.1 <b>CAM-1</b>	hey ah @. @ open the rear door. rear service. rear.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>	<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
13:41:01.7 <b>CAM-5</b>	yeah.		
13:41:06.0 <b>CAM-1</b>	well collect all your data.		
13:41:10.6 <b>CAM-1</b>	no one's hurt sir. no one's hurt.		
13:41:15.0 <b>CAM-1</b>	on the front of your um SWAPA thing there is somethin' about accident. and you need to pull some ah.		
13:41:19.1 <b>HOT-2</b>	yeah I've got that. circuit breaker.		
13:41:21.5 <b>CAM-1</b>	yeah.		
13:41:37.3 <b>HOT-2</b>	P-eighteen.		
13:41:38.9 <b>HOT-2</b>	D-two.		
13:41:40.6 <b>CAM-1</b>	what's that.		
13:41:47.3 <b>CAM-1</b>	cockpit voice recorder.		
13:41:49.5 <b>CAM-2</b>	P-eighteen.		
13:41:51.1 <b>CAM-1</b>	P-eighteen it's behind you.		
13:41:53.1 <b>HOT-2</b>	D-two.		

<u>TIME and SOURCE</u>	<u>INTRA-AIRCRAFT CONTENT</u>
13:41:53.6 <b>CAM-6</b>	you guys want anything to drink.
13:41:54.6 <b>CAM-1</b>	no no no.
13:41:56.2 <b>CAM-1</b>	guys like I said tell her don't talk to anybody until.
13:42:04.9 <b>CAM</b>	[sound of two chimes, similar to flight attendant call button]
13:42:11.0 <b>CAM</b>	[sound of two chimes, similar to ACARS alert]
13:42:11.2 <b>HOT-7</b>	@
13:42:12.7 <b>HOT-8</b>	yeah.
13:42:13.5 <b>HOT-7</b>	hey which door do you want to use here...they're asking me...it's this door right...the door I have open...[sigh] oh my God...our aft--our aft entry door...not the one where we use the provisioner...he's comin' up right now with the stairs.
13:42:57.1 <b>CAM-1</b>	hey @ @ @ captain on nineteen nineteen. hey thanks. yep we're in the mud. everybody's okay. no injuries. engines have been shut down. uh fire trucks are here. we're trying to get some airstairs that won't sink in the mud. but everything--...yes---...we're doin'---we're doin'---we're doin' it right now.
13:43:23.7 <b>CAM-1</b>	everybody's fine. no injuries. aircraft is approximately um ten to fifteen feet off of the left end. we did not go into the frangible cement. we steered it into the grass. we're a good hundred feet from the fence line. everybody is here with no injuries....yeah...yep...oh yeah.

<u>TIME and SOURCE</u>	<u>AIR-GROUND COMMUNICATION CONTENT</u>
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**TIME and  
SOURCE**

**INTRA-AIRCRAFT CONTENT**

**TIME and  
SOURCE**

**AIR-GROUND COMMUNICATION CONTENT**

13:43:55.9

**CAM-1**

no...no no no...the aircraft was...we were landing right at max weight. had wind gusts a storm had just passed through the area. guy in front of us had just called wet fair. ah when we hit the brakes we weren't gettin' anything it was just...it just kept goin'. we both got on the brakes as hard as we could and ah and weren't seeing any deceleration. and we finally got it [end of recording]

13:44:22.6

**END OF TRANSCRIPT  
END OF RECORDING**